

Environmental Protection Agency

§ 132.6

(B) Water quality criteria and values derived pursuant to §132.4(c); and

(3) *For methodologies, policies, and procedures.* The Great Lakes State or Tribe has adopted methodologies, policies, and procedures as protective as the corresponding methodology, policy, or procedure in §132.4. The Great Lakes State or Tribe may adopt provisions that are more protective than those contained in this part. Adoption of a more protective element in one provision may be used to offset a less protective element in the same provision as long as the adopted provision is as protective as the corresponding provision in this part; adoption of a more protective element in one provision, however, is not justification for adoption of a less protective element in another provision of this part.

(h) A submission by a Great Lakes State or Tribe will need to include any provisions that EPA determines, based on EPA's authorities under the Clean Water Act and the results of consultation under section 7 of the Endangered Species Act, are necessary to ensure that water quality is not likely to jeopardize the continued existence of any endangered or threatened species listed under section 4 of the Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat.

(i) EPA's approval of the elements of a State's or Tribe's submission will constitute approval under section 118 of the Clean Water Act, approval of the submitted water quality standards pursuant to section 303 of the Clean Water Act, and approval of the submitted modifications to the State's or Tribe's NPDES program pursuant to section 402 of the Clean Water Act.

[60 FR 15387, Mar. 23, 1995, as amended at 65 FR 67650, Nov. 13, 2000]

§ 132.6 Application of part 132 requirements in Great Lakes States and Tribes.

(a) Effective September 5, 2000, the requirements of Paragraph C.1 of Procedure 2 in Appendix F of this Part and the requirements of paragraph F.2 of Procedure 5 in appendix F of this Part shall apply to discharges within the Great Lakes System in the State of Indiana.

(b) Effective September 5, 2000, the requirements of Procedure 3 in appendix F of this Part shall apply for purposes of developing total maximum daily loads in the Great Lakes System in the State of Illinois.

(c) Effective September 5, 2000, the requirements of Paragraphs C.1 and D of Procedure 6 in appendix F of this Part shall apply to discharges within the Great Lakes System in the States of Indiana, Michigan and Ohio.

(d) Effective November 6, 2000, §132.4(d)(2) shall apply to waters designated as "Class D" under section 701.9 of Title 6 of the New York State Codes, Rules and Regulations within the Great Lakes System in the State of New York. For purposes of this paragraph, chronic water quality criteria and values for the protection of aquatic life adopted or developed pursuant to §132.4(a) through (c) are the criteria and values adopted or developed by New York State Department of Environmental Conservation (see section 703.5 of Title 6 of the New York State Codes, Rules and Regulations) and approved by EPA under section 303(c) of the Clean Water Act.

(e) Effective November 6, 2000, the criteria for mercury contained in Table 4 of this part shall apply to waters within the Great Lakes System in the State of New York.

(f) Effective December 6, 2000, the chronic aquatic life criterion for endrin in Table 2 of this part shall apply to the waters of the Great Lakes System in the State of Wisconsin designated by Wisconsin as Warm Water Sportfish and Warm Water Forage Fish aquatic life use.

(g) Effective February 5, 2001, the chronic aquatic life criterion for selenium in Table 2 of this part shall apply to the waters of the Great Lakes System in the State of Wisconsin designated by Wisconsin as Limited Forage Fish aquatic life use.

(h) Effective December 6, 2000, the requirements of procedure 3 in appendix F of this part shall apply for purposes of developing total maximum daily loads in the Great Lakes System in the State of Wisconsin.

(i) Effective December 6, 2000, the requirements of paragraphs D and E of procedure 5 in appendix F of this part

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shall apply to discharges within the Great Lakes System in the State of Wisconsin.

(j) Effective December 6, 2000, the requirements of paragraph D of procedure 6 in appendix F of this part shall apply to discharges within the Great Lakes System in the State of Wisconsin.

[65 FR 47874, Aug. 4, 2000, as amended at 65 FR 59737, Oct. 6, 2000; 65 FR 66511, Nov. 6, 2000; 76 FR 57652, Sept. 16, 2011]

TABLES TO PART 132

TABLE 1—ACUTE WATER QUALITY CRITERIA FOR PROTECTION OF AQUATIC LIFE IN AMBIENT WATER

EPA recommends that metals criteria be expressed as dissolved concentrations (see appendix A, I.A.4 for more information regarding metals criteria).

(a)

Chemical	CMC (µg/L)	Conversion factor (CF)
Arsenic (III)	a,b 339.8	1.000
Chromium (VI)	a,b 16.02	0.982
Cyanide	c 22	n/a
Dieldrin	d 0.24	n/a
Endrin	d 0.086	n/a
Lindane	d 0.95	n/a
Mercury (II)	a,b 1.694	0.85
Parathion	d 0.065	n/a

^a CMC=CMC^{tr}.
^b CMC^d=(CMC^{tr}) CF. The CMC^d shall be rounded to two significant digits.
^c CMC should be considered free cyanide as CN.
^d CMC=CMCⁱ.

Notes:
The term "n/a" means not applicable.
CMC is Criterion Maximum Concentration.
CMC^{tr} is the CMC expressed as total recoverable.
CMC^d is the CMC expressed as a dissolved concentration.
CMCⁱ is the CMC expressed as a total concentration.

(b)

Chemical	m _A	b _A	Conversion factor (CF)
Cadmium a,b	1.128	−3.6867	0.85
Chromium (III) a,b	0.819	+3.7256	0.316
Copper a,b	0.9422	−1.700	0.960
Nickel a,b	0.846	+2.255	0.998
Pentachlorophenol ^c	1.005	−4.869	n/a
Zinc a,b	0.8473	+0.884	0.978

^a CMC^{tr}=exp {m_A [ln (hardness)]+b_A}.
^b CMC^d=(CMC^{tr}) CF. The CMC^d shall be rounded to two significant digits.
^c CMCⁱ=exp m_A {[pH]+b_A}. The CMCⁱ shall be rounded to two significant digits.

Notes:
The term "exp" represents the base e exponential function.
The term "n/a" means not applicable.
CMC is Criterion Maximum Concentration.
CMC^{tr} is the CMC expressed as total recoverable.
CMC^d is the CMC expressed as a dissolved concentration.
CMCⁱ is the CMC expressed as a total concentration.

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[60 FR 15387, Mar. 23, 1995, as amended at 65 FR 35286, June 2, 2000]

TABLE 2—CHRONIC WATER QUALITY CRITERIA FOR PROTECTION OF AQUATIC LIFE IN AMBIENT WATER

EPA recommends that metals criteria be expressed as dissolved concentrations (see appendix A, I.A.4 for more information regarding metals criteria).

(a)

Chemical	CCC (µg/L)	Conversion factor (CF)
Arsenic (III)	a,b 147.9	1.000
Chromium (VI)	a,b 10.98	0.962
Cyanide	c 5.2	n/a
Dieldrin	d 0.056	n/a
Endrin	d 0.036	n/a
Mercury (II)	a,b 0.9081	0.85
Parathion	d 0.013	n/a
Selenium	a,b 5	0.922

^a CCC=CCC^{tr}.
^b CCC^d=(CCC^{tr}) CF. The CCC^d shall be rounded to two significant digits.

^c CCC should be considered free cyanide as CN.

^d CCC=CCCⁱ.

Notes:

The term "n/a" means not applicable.
CCC is Criterion Continuous Concentration.
CCC^{tr} is the CCC expressed as total recoverable.
CCC^d is the CCC expressed as a dissolved concentration.
CCCⁱ is the CCC expressed as a total concentration.

(b)

Chemical	m _c	b _c	Conversion factor (CF)
Cadmium a,b	0.7852	−2.715	0.850
Chromium (III) a,b	0.819	+0.6848	0.860
Copper a,b	0.8545	−1.702	0.960
Nickel a,b	0.846	+0.0584	0.997
Pentachlorophenol ^c	1.005	−5.134	n/a
Zinc a,b	0.8473	+0.884	0.986

^a CCC^{tr}=exp {m_c [ln (hardness)]+b_c}.

^b CCC^d=(CCC^{tr}) (CF). The CCC^d shall be rounded to two significant digits.

^c CMCⁱ=exp {m_A [pH]+b_A}. The CMCⁱ shall be rounded to two significant digits.

Notes:

The term "exp" represents the base e exponential function.
The term "n/a" means not applicable.
CCC is Criterion Continuous Concentration.
CCC^{tr} is the CCC expressed as total recoverable.
CCC^d is the CCC expressed as a dissolved concentration.
CCCⁱ is the CCC expressed as a total concentration.

TABLE 3—WATER QUALITY CRITERIA FOR PROTECTION OF HUMAN HEALTH

Chemical	HNH (µg/L)		HCV (µg/L)	
	Drinking	Non-drinking	Drinking	Non-drinking
Benzene	1.9E1	5.1E2	1.2E1	3.1E2
Chlordane	1.4E−3	1.4E−3	2.5E−4	2.5E−4
Chlorobenzene	4.7E2	3.2E3		
Cyanides	6.0E2	4.8E4		
DDT	2.0E−3	2.0E−3	1.5E−4	1.5E−4

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TABLE 3—WATER QUALITY CRITERIA FOR PROTECTION OF HUMAN HEALTH—Continued

Chemical	HNV (µg/L)		HCV (µg/L)	
	Drink-ing	Non-drink-ing	Drink-ing	Non-drink-ing
Dieldrin	4.1E-4	4.1E-4	6.5E-6	6.5E-6
2,4-Dimethylphenol	4.5E2	8.7E3		
2,4-Dinitrophenol	5.5E1	2.8E3		
Hexachlorobenzene ...	4.6E-2	4.6E-2	4.5E-4	4.5E-4
Hexachloroethane	6.0	7.6	5.3	6.7
Lindane	4.7E-1	5.0E-1		
Mercury ¹	1.8E-3	1.8E-3		
Methylene chloride	1.6E3	9.0E4	4.7E1	2.6E3
2,3,7,8-TCDD	6.7E-8	6.7E-8	8.6E-9	8.6E-9
Toluene	5.6E3	5.1E4		
Toxaphene			6.8E-5	6.8E-5
Trichloroethylene			2.9E1	3.7E2

¹ Includes methylmercury.

[60 FR 15387, Mar. 23, 1995, as amended at 62 FR 11731, Mar. 12, 1997; 62 FR 52924, Oct. 9, 1997]

TABLE 4—WATER QUALITY CRITERIA FOR PROTECTION OF WILDLIFE

Chemical	Criteria (µg/L)
DDT and metabolites	1.1E-5
Mercury (including methylmercury)	1.3E-3
PCBs (class)	1.2E-4
2,3,7,8-TCDD	3.1E-9

[60 FR 15387, Mar. 23, 1995, as amended at 62 FR 11731, Mar. 12, 1997]

TABLE 5—POLLUTANTS SUBJECT TO FEDERAL, STATE, AND TRIBAL REQUIREMENTS

Alkalinity
Ammonia
Bacteria
Biochemical oxygen demand (BOD)
Chlorine
Color
Dissolved oxygen
Dissolved solids
pH
Phosphorus
Salinity
Temperature
Total and suspended solids
Turbidity

TABLE 6—POLLUTANTS OF INITIAL FOCUS IN THE GREAT LAKES WATER QUALITY INITIATIVE

A. Pollutants that are bioaccumulative chemicals of concern (BCCs):
Chlordane
4,4'-DDD; p,p'-DDD; 4,4'-TDE; p,p'-TDE
4,4'-DDE; p,p'-DDE
4,4'-DDT; p,p'-DDT
Dieldrin
Hexachlorobenzene

Hexachlorobutadiene; hexachloro-1, 3-buta-diene
Hexachlorocyclohexanes; BHCs
alpha-Hexachlorocyclohexane; alpha-BHC
beta-Hexachlorocyclohexane; beta-BHC
delta-Hexachlorocyclohexane; delta-BHC
Lindane; gamma-hexachlorocyclohexane; gamma-BHC
Mercury
Mirex
Octachlorostyrene
PCBs; polychlorinated biphenyls
Pentachlorobenzene
Photomirex
2,3,7,8-TCDD; dioxin
1,2,3,4-Tetrachlorobenzene
1,2,4,5-Tetrachlorobenzene Toxaphene
B. Pollutants that are not bioaccumulative chemicals of concern:
Acenaphthene
Acenaphthylene
Acrolein; 2-propenal
Acrylonitrile
Aldrin
Aluminum
Anthracene
Antimony
Arsenic
Asbestos
1,2-Benzanthracene; benz[a]anthracene
Benzene
Benzidine
Benzo[a]pyrene; 3,4-benzopyrene
3,4-Benzofluoranthene;
benzo[b]fluoranthene
11,12-Benzofluoranthene;
benzo[k]fluoranthene
1,12-Benzoperylene; benzo[ghi]perylene
Beryllium
Bis(2-chloroethoxy) methane
Bis(2-chloroethyl) ether
Bis(2-chloroisopropyl) ether
Bromoform; tribromomethane
4-Bromophenyl phenyl ether
Butyl benzyl phthalate
Cadmium
Carbon tetrachloride; tetrachloromethane
Chlorobenzene
p-Chloro-m-cresol; 4-chloro-3-methylphenol
Chlorodibromomethane
Chlorethane
2-Chloroethyl vinyl ether
Chloroform; trichloromethane
2-Chloronaphthalene
2-Chlorophenol
4-Chlorophenyl phenyl ether
Chlorpyrifos
Chromium
Chrysene
Copper
Cyanide
2,4-D; 2,4-Dichlorophenoxyacetic acid
DEHP; di(2-ethylhexyl) phthalate
Diazinon
1,2,5,6-Dibenzanthracene;
dibenz[a,h]anthracene
Dibutyl phthalate; di-n-butyl phthalate

1,2-Dichlorobenzene
 1,3-Dichlorobenzene
 1,4-Dichlorobenzene
 3,3'-Dichlorobenzidine
 Dichlorobromomethane;
 bromodichloromethane
 1,1-Dichloroethane
 1,2-Dichloroethane
 1,1-Dichloroethylene; vinylidene chloride
 1,2-trans-Dichloroethylene
 2,4-Dichlorophenol
 1,2-Dichloropropane
 1,3-Dichloropropene; 1,3-dichloropropylene
 Diethyl phthalate
 2,4-Dimethylphenol; 2,4-xyleneol
 Dimethyl phthalate
 4,6-Dinitro-o-cresol; 2-methyl-4,6-
 dinitrophenol
 2,4-Dinitrophenol
 2,4-Dinitrotoluene
 2,6-Dinitrotoluene
 Dioctyl phthalate; di-n-octyl phthalate
 1,2-Diphenylhydrazine
 Endosulfan; thiodan
 alpha-Endosulfan
 beta-Endosulfan
 Endosulfan sulfate
 Endrin
 Endrin aldehyde
 Ethylbenzene
 Fluoranthene
 Fluorene; 9H-fluorene
 Fluoride
 Guthion
 Heptachlor
 Heptachlor epoxide
 Hexachlorocyclopentadiene
 Hexachloroethane
 Indeno[1,2,3-cd]pyrene; 2,3-o-phenylene py-
 rene
 Isophorone
 Lead
 Malathion
 Methoxychlor
 Methyl bromide; bromomethane
 Methyl chloride; chloromethane
 Methylene chloride; dichloromethane
 Napthalene
 Nickel
 Nitrobenzene
 2-Nitrophenol
 4-Nitrophenol
 N-Nitrosodimethylamine
 N-Nitrosodiphenylamine
 N-Nitrosodipropylamine; N-nitrosodi-n-
 propylamine
 Parathion
 Pentachlorophenol
 Phenanthrene
 Phenol
 Iron
 Pyrene
 Selenium
 Silver
 1,1,2,2-Tetrachloroethane
 Tetrachloroethylene
 Thallium

Toluene; methylbenzene
 1,2,4-Trichlorobenzene
 1,1,1-Trichloroethane
 1,1,2-Trichloroethane
 Trichloroethylene; trichloroethene
 2,4,6-Trichlorophenol
 Vinyl chloride; chloroethylene;
 chloroethene
 Zinc

APPENDIX A TO PART 132—GREAT LAKES WATER QUALITY INITIATIVE METH- ODOLOGIES FOR DEVELOPMENT OF AQUATIC LIFE CRITERIA AND VAL- UES

METHODOLOGY FOR DERIVING AQUATIC LIFE CRITERIA: TIER I

Great Lakes States and Tribes shall adopt provisions consistent with (as protective as) this appendix.

I. Definitions

A. Material of Concern. When defining the material of concern the following should be considered:

1. Each separate chemical that does not ionize substantially in most natural bodies of water should usually be considered a separate material, except possibly for structurally similar organic compounds that only exist in large quantities as commercial mixtures of the various compounds and apparently have similar biological, chemical, physical, and toxicological properties.

2. For chemicals that ionize substantially in most natural bodies of water (e.g., some phenols and organic acids, some salts of phenols and organic acids, and most inorganic salts and coordination complexes of metals and metalloid), all forms that would be in chemical equilibrium should usually be considered one material. Each different oxidation state of a metal and each different non-ionizable covalently bonded organometallic compound should usually be considered a separate material.

3. The definition of the material of concern should include an operational analytical component. Identification of a material simply as "sodium," for example, implies "total sodium," but leaves room for doubt. If "total" is meant, it must be explicitly stated. Even "total" has different operational definitions, some of which do not necessarily measure "all that is there" in all samples. Thus, it is also necessary to reference or describe the analytical method that is intended. The selection of the operational analytical component should take into account the analytical and environmental chemistry of the material and various practical considerations, such as labor and equipment requirements, and whether the method would require measurement in the field or would